Share Bears

http://nrich.maths.org/2358

Yasmin and Zach have some bears to share. Which numbers of bears can they share equally so that there are none left over?

What do you notice about the numbers they can share fairly?

You Will Need:

- Red and blue counters
- Plastic bears or cubes

This activity is taken from the NRICH website and features on the Hands On Maths Roadshow: http://www.mmp.maths.org/roadshow. It also appears on the curriculum mapping document: http://nrich.maths.org/curriculum

Teachers' Notes

Why do this problem?

This problem is an appealing way to help children understand the process of division as sharing. In particular, they will have the opportunity to investigate patterns when dividing by two and thus identify even numbers and hence multiples of two.

Possible approach

It would be great to have some plastic bears for the children to physically share if they are not using the interactivity. Of course, cubes or counters would do just as well.

You could ask pairs of children to have a go at the problem, noting down on their mini-whiteboards (or shading a hundred square) which numbers of bears do share equally. Bring the class back to talk about their findings. You could shade the numbers they have managed to share on a hundred square and then use this as a basis for discussing these special even numbers. Can the class predict what the next even number will be? How do they know? What is the largest even number on the hundred square? How do they know?

Key questions

How about starting with just one bear? Can you share this one bear fairly between both Yasmin and Zach?
What is the smallest number of bears that you can share equally?
How will you record which numbers do share fairly?
What about using a hundred square?

Possible extension

Children could investigate sharing the bears between more children and recording their findings on a hundred square in a similar way.

Possible support

Pairs of children could physically share the bears/counters between themselves - this makes the problem more accessible.